

## REMARKS

Examiner S. Staicovici is thanked for the thorough examination and search of the subject Patent Application. Claims 1 and 8 have been amended.

All Claims are believed to be in condition for Allowance, and that is so requested.

Reconsideration of the rejection under 35 U.S.C. 112, second paragraph of claims 1-19 is requested in view of amended claims 1 and 8. Claims 1 and 8 have been amended to provide proper antecedent basis in the claims for "corners of the mould."

Reconsideration of the rejection under 35 U.S.C. 103 of Claims 1-19 as being unpatentable over Freeman in view of Robin et al and further in view of Mittelstadt et al, Azzani et al, and Nelson et al is requested in accordance with the following remarks.

Freeman's process begins by placing fibrous material along the inner wall of the mold. The material may be a single layer or a preshaped piece. More than one piece may be required if the area is exceptionally deep as illustrated in Fig. 3 where pieces 28, 30, and 32 are overlapping at their edges (col. 2, lines 21-30). The pieces do not form multiple layers except perhaps at their edges. There is no teaching or suggestion of Applicant's process of laying up a plurality of layers of composite fabric where each layer is compacted, as claimed in section (a) of claims 1 and 8 and as described on page 5 of the Specification. Fig. 4 shows the layers 30 being built up on the entire frame.

Although it is agreed that Robin et al teaches an inflatable nylon bladder, the process of Robin et al is completely different from that of Freeman and Applicants' invention. Robin et al teaches weaving glass fibers over the inflatable sheaths (col. 2, lines 39-52), rather than laying up separate layers of composite materials in a mold (as taught on page 5 of the Specification). There is no teaching or suggestion that the glass fibers of Robin et al are compacted against anything as they are formed over the inflatable sheaths. Thus, it is not agreed that Freeman in view of Robin et al teaches manual debulking.

Mittelstadt et al teaches that it is conventional to lay up multiple plies of composite material onto a mandrel where each ply is compacted against the mandrel using a vacuum bag. However, Mittelstadt et al does not teach or suggest laying up multiple plies of composite material within an upper and a lower component of a mold to form a unitary structure within a mold. There would be no motivation to combine Mittelstadt et al's vacuum compaction over a mandrel with the combination of Freeman and Robin et al since the combination does not teach compaction of any kind.

None of the references or their combination teaches or suggests laying up a plurality of layers of composite fabric within a mold and compacting each layer by applying vacuum.

While it is agreed that Robin et al's nylon sheath could be used as the inflatable bladder of Freeman, none of the references teach or suggest having the nylon tubes extending out at each corner of the mold, as claimed in section (b) of claims 1 and 8 of Applicant's invention. This aspect of Applicant's invention allows the nylon tubes to be withdrawn after they are used, as

claimed in section (d) of claims 1 and 8. Freeman does state in col. 3, lines 8-10, that the bladder may be removed or left in place as desired, depending on “part complexity, bladder material, and resin.” This means that the bladder may not be removable in certain configurations. Thus, the access at each corner of the mold, claimed in Applicant’s invention, is not taught or suggested by Freeman. There is no suggestion in Freeman of how the bladder may be removed, and the bladder may not be removed in certain instances. There is no suggestion in Robin et al that the nylon sheath be removed.

Nelson et al teaches an inflatable bladder that functions as a mandrel (col. 2, lines 36-64) to form a smooth, hollow shaft (col. 2, lines 11-16). That is, the fiber is formed around the bladder (col. 4, lines 26-28). The bladder with the fiber around it is placed into a shaft mold (col. 4, lines 45-47), the mold is closed and the bladder pressurized (col. 4, lines 53-55), the mold is opened, and the bladder removed (col. 4, lines 58-59). Thus, the bladder is acting as a mandrel within a shaft (col. 2, lines 46-53) and so is removed as a mandrel would be removed. Although it might be obvious to remove an inflatable bladder by pulling, the combination of the references does not teach or suggest removing the inflatable tube of Freeman by pulling, because there is no teaching that there are access points to the bladder at corners of the mold. Nelson et al’s bladder is removed from the shaft mold after it is opened. Freeman’s mold is not a simple shaft.

It is only with reference to Applicant’s own invention that it can be seen that Applicant’s method could be used to remove Freeman’s bladder in certain circumstances. Thus, the combination of references does not teach or suggest having the nylon tubes extending out at each corner of the mold, as claimed in section (b) of claims 1 and 8 of Applicant’s invention.

Applicant's invention is not considered to be obvious over the combination of Freeman, Robin et al, Mittelstadt et al, Azzani et al, and Nelson et al, at least because the combination does not teach or suggest laying up a plurality of composite material wherein each layer is compacted by applying vacuum prior to closing the mold and inflating the nylon tube. Furthermore, the combination of references does not teach or suggest having the nylon tubes extending out from openings at each corner of the mold and being removed by pulling the tubes out through the openings after fabrication of the door frame is completed.

Reconsideration of the rejection under 35 U.S.C. 103 of Claims 1-19 as being unpatentable over Freeman in view of Robin et al and further in view of Mittelstadt et al, Azzani et al, and Nelson et al is requested in accordance with the remarks above.

Allowance of all Claims is requested.

It is requested that should Examiner Staicovici not find that the Claims are now Allowable that the Examiner call the undersigned at 765 4530866 to overcome any problems preventing allowance.

Respectfully submitted,

A handwritten signature in cursive script, reading "Rosemary L. S. Pike".

Rosemary L. S. Pike. Reg # 39,332